REMARKS

STATUS OF CLAIMS

Claims 1-36 are pending and under consideration.

Claims 11 and 32-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikegawa.

Claims 1, 2, 11, 13, 24-27, and 29-36 are amended. Thus, claims 1-36 remain pending for reconsideration, which is respectfully requested.

No new matter has been added in this Amendment. The foregoing rejections are hereby traversed.

claim rejections – 35 U.S.C. §112, second paragraph, rejections

Claims 11 and 32-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Claims 1-36 are pending, of which claims 1, 2, 13, 24 and 32-36 are independent. Claims 1, 2, 11, 13, 24-27, and 29-36 are amended to overcome indefiniteness taking into the Examiner's comments as well as to correct any other identified informalities to improve clarity and/or form.

Regarding independent claims 1, 2, and 32, support for the claim amendments can be found, for example, on page 8, line 6 to page 16, line 11, and FIGS. 1-7, of the present Application.

Regarding independent claims 13, 24, 33 and 35, support for the claim amendments can be found, for example, on page 4, line 31 to page 5, line 27; page 23, line 30 to page 27, line 16; and page 29, line 27 to page 32, line 14, of the present Application.

In particular, dependent claim 11 is amended taking into consideration the Examiner's comments and in view of FIGS. 3-6 and descriptions thereof in page 9, line 21 to page 15, line 11, of the present Application. Further, the Applicants assert that one skilled in the art would understand the structural cooperative relationships between the present invention's analysis circuit 26 (FIG. 3) and the first and second analysis circuits 33, 34 (FIG. 4) as recited in claim 11. Contrary to the Examiner's suggestion, in view of FIGS. 3 and 4 of the present Application, and the amended claim 11 recitation, there are no omissions amounting to a gap between the necessary structural connections that would not be understood by one skilled in the art.

Further, in particular, independent claim 1 is amended providing an alternate recitation of the present invention's plug-and-play type interface.

Withdrawal of the indefiniteness rejections of claims 11 and 32-36 is respectfully requested.

claim rejection – 35 U.S.C. §102(e)

Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikegawa.

In the Response to Arguments, page 9, line 11, of the Office Action, the Examiner appears to assert that a 1394 bus interface inherently provides the present invention's "determining whether the bus reset sequence has been completed normally." In particular, the Examiner alleges that a 1394 bus cannot transfer data unless the bus reset performed in response to a plug-and-play function was normal, thereby implying that the bus 1394 has to make a determination that the bus reset was normal. In particular, the Office Action page 9, lines 6-10, suggests that the Examiner is asserting that Ikegawa's serial bus management 815 in FIG. 7 (column 4, lines 48-55) is similar to the present claimed invention's "analysis circuit" 26 in FIG. 3.

However, Ikegawa discloses handling a circumstance when a 1394 bus has a plug-and-play function during printing by a printer, such that a bus reset occurs and data transfer to the printer is suspended and an erroneous image can be generated (column 1, lines 34-43 and Abstract). In particular, Ikegawa discloses requesting printing data being transferred or retransmitting data when a bus reset occurs during a data transfer (column 14, line 42 to column 16, line 38).

As a preliminary matter, Ikegawa does not expressly describe operation details of firmware unit 801 and serial bus management unit 815 of FIG. 7 anywhere in the disclosure of Ikegawa other than a general discussion in column 4, lines 48-55, and, thus, Applicants assert that Ikegawa cannot anticipate the claimed invention as recited in independent claims 1, 2 and 32, because Ikegawa does not disclose or suggest every claim element of the present claimed invention as recited in independent claims 1, 2, and 32.

Further, the independent claims 1, 2, and 32 are amended to further emphasize the patentably distinguishing features of the present invention, as follows.

> 1. (CURRENTLY AMENDED) An interface connectable to a host controller and an external bus, and that performs ~~having a plug and play function and connected to a host controller, wherein the interface performs~~ a predetermined bus reset sequence on the external bus in response to a bus reset generated by ~~the~~a plug and play function ~~in accordance with~~according to a change in ~~the~~a status of ~~an~~the external bus, ~~the interface~~according to a process comprising:
>
> ~~an analysis circuit for~~ ***analyzing bus reset sequence data, including identification (ID) packet,*** provided from the external bus during the bus reset sequence and ~~for~~ determining whether the bus reset sequence has been completed normally according to the analyzing of the bus reset sequence data, wherein the analysis circuit provides the bus reset sequence data to the host controller when determined that the bus reset sequence has been completed normally (emphasis added).

In contrast to Ikegawa, the present invention as recited in independent claims 1, 2 and 32, provides, "***analyzing bus reset sequence data, including identification (ID) packet,*** provided from the external bus during the bus reset sequence and ~~for~~ determining whether the bus reset sequence has been completed normally according to the analyzing of the bus reset sequence data, wherein the ***analysis circuit provides the bus reset sequence data to the host controller when determined that the bus reset sequence has been completed normally***" (e.g., claim 1, emphasis added). In other words, the present invention is different from Ikegawa in that Ikegawa does not analyze data including ID packet (see explanation attachment provided hereto). Therefore, in the present claimed invention's plug-and-play type interface, for example (without limitation) a 1394 interface, "bus reset sequence data, including identification (ID) packet" is transferred to the host level only if determined that the "bus reset sequence data" is normal.

In particular, the present claimed invention has a benefit of preventing transferring of erroneous "bus reset sequence data" to the host, so that host level error can be minimized. Ikegawa's serial bus management 810 in FIG. 7, simply does not disclose or suggest, or provide any motivation for modifying the same, and it would not be obvious to one skilled in the art to modify the same, to provide the present invention's "***analyzing bus reset sequence data, including identification (ID) packet,*** provided from the external bus during the bus reset sequence ... wherein the analysis circuit ***provides the bus reset sequence data to the host controller when determined that the bus reset sequence has been completed normally***" (amended independent claim 1). In contrast to Ikegawa, the present invention (claims 1-12 and 32) analyzes data, ***including ID packet***, provided from an external bus after a bus reset sequence is started and transfers data to a host controller when a bus reset sequence has been performed normally. The present claimed invention differs (is patentably distinguishing) from Ikegawa in that Ikegawa does not analyze data including ID packet (see explanation attachment provided hereto). As also disclosed in page 2, lines 11-32, of the present Application, a conventional interface does not provide the present claimed invention's handling of errors in "***bus reset sequence data, including identification (ID) packet,*** provided from the external bus during the bus reset sequence," (e.g., claim 1, emphasis added) so that the present claimed invention has a benefit of not transferring erroneous "bus reset sequence data" to the host controller to reduce the risk of experiencing timeouts or erroneous functioning, such as a computer hangup, at the host level.

Regarding independent claims 1, 2, and 32, support for the claim amendments can be found, for example, on page 8, line 6 to page 16, line 11, and FIGS. 1-7, of the present Application.

INDEPENDENT CLAIMS 13, 24, 33 and 35

At least Ikegawa does not disclose or suggest the patentably distinguishing feature of an interface performing "self-diagnosis" as recited independent claims 13, 24, 33 and 35. The Examiner asserts on page 10, line 5, of the Office Action, that the limitations recited in claim 13 cannot be found in claims 24, 33 and 35. However, the Applicants respectfully assert that clearly all of the independent claim 24, 33, and 35 expressly recite the phrase "self-diagnosis." In particular, the present invention as recited in claims 13-31, 33-34 and 35 performs "self-diagnosis" prior to a predetermined connection procedure and does not perform the predetermined connection procedure when an abnormality of a network is detected. That is, for example, the present invention determines whether a bus reset sequence has been performed normally (e.g., dependent claim 15) or a circuit itself is normal prior to a predetermined connection procedure (e.g., bus reset as recited in dependent claim 15). Therefore, the present invention is quite different from Ikegawa.

Further, the Examiner asserts on page 10, line 6, of the Office Action that Ikegawa's analyzing/managing the 1394 interface is a form of the present invention's "self-diagnosis." However, the Applicants respectfully disagree with the Examiner, because the claims do not only recite "managing" the 1394 interface, such that an overly broad scope characterization of independent claims 13, 24, 33 and 35 would not be appropriate. In particular, independent claim 13 is amended to further emphasize the patentably distinguishing features of the present invention consistent with independent claims 24, 33 and 35.

Further, the Examiner asserts on page 10, line 10, of the Office Action, that the 1394 bus reset itself is a form of the present invention's "self diagnosis." However, the Applicants again note that the claims do not recite "self diagnosis" alone, and at least independent claims 24, 33 and 35 recite other patentably distinguishing features for consideration by the Examiner.

Therefore, in contrast to Ikegawa, independent claim 13 is amended to further emphasize the patentably distinguishing features of the present invention. Independent claims 24, 33 and 35 are amended for clarity/to improve form. In contrast to Ikegawa, the present invention as recited in amended independent claims 13, 24, and 33, using amended independent claim 13 as an example, provides:

> 13. (CURRENTLY AMENDED) An interface having a transmitting circuit and a receiving circuit, and that performs a predetermined connection procedure with a network, the interface comprising:
>
> a self-diagnosis circuit ~~for~~ performing self-diagnosis of the interface using data transferring between the transmitting and the receiving circuits of the interface prior to the predetermined connection procedure with the network,
>
> wherein the interface suspends transition to the predetermined connection procedure with the network when the self-diagnosis circuit generates a diagnosis indicating an abnormality of the interface.

Independent claim 24 clearly recites, "connecting the first and second ports to each other prior to the predetermined connection procedure."

Ikegawa is absolutely silent on the present invention's interconnection of 1394 ports to self-diagnose. In particular, Ikegawa does not disclose or suggest anywhere the present invention's, "a self-diagnosis circuit ~~for~~ performing self-diagnosis of the interface using data transferring between the transmitting and the receiving circuits of the interface prior to the predetermined connection procedure with the network" (amended independent claim 13). For example, Ikegawa, when describing FIG. 7 in column 4, lines 48-55, does not disclose anything about the using the 1394 connector port 810 to perform a self-diagnosis.

Further, in contrast to Ikegawa, the present invention as recited in independent claim 35 provides:

> 35. (CURRENTLY AMENDED) A method of self-diagnosis ~~method employed~~ by an interface having a transmitting circuit and a receiving circuit that are communicably connectable to an external bus, ~~the self-diagnosis method~~ comprising:
>
> connecting the transmitting circuit and the receiving circuit to each other prior to a predetermined connection procedure by the interface to the external bus; and
>
> testing as the self-diagnosis a direct current characteristic of the interface ~~or an alternating current characteristic~~ by transferring direct current signals between the connected transmitting circuit and the receiving circuit of the interface; and
>
> testing as the self-diagnosis an alternating current characteristic of the interface by ~~in case of the direct current characteristic test, or~~ transferring a data signal whose waveform is same as that of data used during an actual non-test data transfer ~~between~~by the transmitting and receiving circuits of the interface on the external bus ~~in case of the alternating current characteristic test~~.

It is believed that independent claim 35 is allowable over Ikegawa, because Ikegawa does not disclose or suggest any type of the present invention's "testing as the self-diagnosis a direct current characteristic of the interface" and "testing as the self-diagnosis an alternating current characteristic of the interface."

Regarding independent claims 13, 24, 33 and 35, support for the claim amendments can be found, for example, on page 4, line 31 to page 5, line 27; page 23, line 30 to page 27, line 16; and page 29, line 27 to page 32, line 14, of the present Application.

CONCLUSION

In view of the amendments and remarks presented above, it is respectfully submitted that the application is in condition for allowance, and withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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